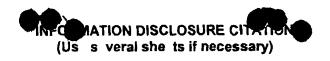


\$ zOMB No. 0651-0011

INFORMATION DISCLOSURE CITATION (Us s v ral sheets if necessary)

Atty. Doc	ket No.	2481.1679-00		Serial No. 09/	627,787		· K		
Applicant		Eugen UHLMANN et	al			DCC	2 2000		
Filing Date July 27, 2000			Group: 170)2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	TRADEMARK			
			U.S. PATEN	T DOCUMENTS		77.4	MADEMARIE		
Examiner Initial*		Document Number	Date	Name	Class	Sub Class	Filing Date If A Proposition (VE		
1/2	3	6,033,909	03-07-2000	Uhlmann et al.	435	375	BEC 28 200		
	1		FOREIGN PAT	ENT DOCUMENTS	<u>!</u> _	L	TECH CENTER 1600		
		Document Number	Date	Country	Class	Sub Class	Translation Yes or N		
Ps	5	0 552 766 A2	07-28-93				No		
_		OTHER DOCUMEN	ITS (including A	uthor, Title, Date, P	ertinent F	ages, Etc	.)		
1.	4			rrection of the Mutat nce, Vol. 273, pp. 13			Sickle Cell Anemia by		
2.	1	James C. NORTON Nature Biotechnolo		n of human telomerase activity by peptide nucleic acids," 15-619 (1996).					
3.	-		C. Frank BENNETT, et al., "Cationic Lipids Enhance Cellular Uptake and Activity of Phosphorothioate Antisense Oligonucleotides," Molecular Pharmacology, Vol. 41, pp. 1023-1033 (1992).						
4 .		Pieter BREEUWER, et al., "Characterization of Uptake and Hydrolysis of Fluorescein Diacetate and Carboxyfluorescein Diacetate by Intracellular Esterases in Saccharomyces cerevisiae. Which Result in Accumulation of Fluorescent Product," Applied and Environmental Microbiology, Vol. 61, No. 4, pp. 1614-1619 (1995).							
5.	4	Radhakrishnan P. IYER, et al., "Bioreversible Oligonucleotide Conjugates by Site-Specific Derivatization," Biorganic & Medicinal Chemistry Letters, Vol. 7, No. 7, pp. 871-876 (1997).							
6.		Clara L. KIELKOPF, et al., "A Structural Basis for Recognition of A • T and T • A Base Pairs in the Minor Groove of B-DNA," Science, Vol. 282, pp. 111-115 (1998).							
7.		Eugen UHLMANN, et al., "Antisense Oligonucleotides: A New Therapeutic Principle," Chemical Reviews, Vol. 90, No. 4, pp. 544-584 (1990).							
8.	+	Jürg HUNZIKER, et al., "Nucleic Acid Analogues: Synthesis and Properties," Modern Synthetic Methods, Ed. Beat Ernst et al., pp. 333-417 Verlag Helvetica Chimica Acta, Basel (1995).							
_	1		ers with carbamate	arged stereoregular e internucleoside linl			: 2. Morpholino s Research Vol. 17,		
9.		James SUMMERTON, et al., "Morpholino Antisiense Oligomers: Design, Preparation, and Properties," Antisense & Nucleic Acid Drug Development, Vol. 7, pp. 187-195 (1997).							
9.	1								





RECEIVED

DEC 28 2000

Atty. Docket No.	2481.1679-00	Serial No.	09/627,787	ECH CENTER 1600/2900
Applicant	Eugen UHLMANN et al.			
Filing Date	July 27, 2000	Group:	1702	

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Continued					
13/cs U	Anusch PEYMAN, et al., "Phosphonic Ester Nucleic Acids (PHONAs): Oligonucleotide Analogues with an Achiral Phosphonic Acid Ester Backbone," Angew Chem. Int. Ed. Engl., Vol. 35, No. 22, pp. 2636-2638 (1996).					
13.	Sanjay K. SINGH, et al., "LNA (locked nucleic acids): synthesis and high-affinity nucleic acid recognition," Chem. Commun., pp. 455-456 (1998).					
14.	Sanjay K. SINGH, et al., "Universality of LNA-mediated high affinity nucleic acid recognition," Chem. Commun., pp. 1247-1248 (1998).					
15.	Brian C. FROEHLER, et al., "Triple-Helix Formation by Oligodeoxynucleotides Containing the Carbocyclic Analogs of Thymidine and 5-Methyl-2'-deoxycytidine," J. Am. Chem. Soc., Vol. 114, pp. 8320-8322 (1992).					
16.	Frank VANDENDRIESSCHE, et al., "Acyclic Oligonucleotides: Possibilities and Limitations," Tetrahedron, Vol. 49, No. 33, pp. 7223-7238 (1993).					
17.	Markus TARKÖY, et al., "Nucleic-Acid Analogues with Constraint Conformational Flexibility in the Sugar-Phosphate Backbone ('Bicyclo-DNA'), Helvetica Chemica Acta, Vol. 76, pp. 481-510 (1993).					
18.	Muthiah MANOHARAN, "Designer Antisense Oligonucleotides: Conjugation Chemistry and Functional Placement," Chapter 17, Antisense Research and Applications, Eds, B. Leblew et al., pp. 303-349 (1993).					
19	Masakazu KOGA, et al., "Alternating α,β-Oligothymidylates with Alternating (3'→3')- and (5'→5')- Internucleotidic Phosphodiester Linkages as Models for Antisense Oligodeoxyribonucleotides," Journal of Organic Chemistry, Vol. 56, No. 12, pp. 3757-3763 (1991).					
20.	John GOODCHILD, "Conjugates of Oligonucleotides and Modified Oligonucleotides: A Review of Their Synthesis and Properties," Bioconjugate Chemistry, Vol. 1, No. 3, pp. 165-186 (1990).					
21	Serge L. BEAUCAGE, et al., "The Functionalization of Oligonucleotides Via Phosphoramidite Derivatives," Tetrahedron, Vol. 49, No. 10, pp. 1925-1963 (1993).					
22.	Norman WEINER, et al., "Liposomes as a Drug Delivery System," Drug Development and Industrial Pharmacy, 15(10), pp. 1523-1554 (1989).					
23.	S-I HAYASHI, et al., "In vivo transfer of gene and oligodeoxynucleotides into skin of fetal rats by incubation in amniotic fluid," Gene Therapy, Vol. 3, pp. 878-885 (1995).					
34/5	M. SAWADOGO, et al., "A rapid method for the purification of deprotected oligodeoxynucleotides," Nucleic Acids Research, Vol. 19, No. 3, p. 674 (1991).					
Examiner	Date Considered 12 /2c/01					
*Examiner:	Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.					
Form PTO 144	9 Patent and Trademark Office - U.S. Department of Commerce					

AUG 2 2 2001



OMB No. 0651-0011

nFORMATION DISCLOSURE CITATION

Atty. Docket No. 024EM3EM-00 Serial No. 09/627,787

Applicant Eugen UHLMANN et al. SEP 0 7 2001

Filling Date July 27, 2000 Group: 1632

TECH CENTER 1600/2900

U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Sub Class	Filing Date
128	1	6,184,379 B1	February 6, 2001	Josel, et al.	546	48	

		F	OREIGN PATENT DO	CUMENTS			
		Document Number	Date	Country	Class	Sub Class	Translation Yes or No
PKS	2	EP 0 962 497 A1	December 8, 1999	EPO	€ 09 B	11/24	- No
R	3	WO 95/06659	March 9, 1995	PCT	0 '07 H	21/00	

0	THER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
RS.	Dieter Starke, et al. "Bile Acid—Oligodeoxynucleotide Conjugates: Synthesis and Liver Excretion in Rats" Bioorganic & Medicinal Chemistry Letters 11:945-949 (2001)
Y'	Neil A. Whittemore, et al. "Synthesis and Electrochemistry of Anthraquinone— Oligodeoxynucleotide Conjugates" <i>Bioconjugate Chem.</i> 10:261-270 (1999)
-	Kenneth R. Luehrsen, et al. "High-density Hapten Labeling and HRP Conjugation of Oligonucleotides for Use as In Situ Hybridization Probes to Detect mRNA Targets in Cells and Tissues" The Journal of Histochemistry & Cytochemistry 48(1):133-145 (2000)
	Antonina Rait, et al. "3'-End Conjugates of Minimally Phosphorothioate-Protected Oligonucleotides with 1-O-Hexadecylglycerol: Synthesis and Anti-ras Activity in Radiation-Resistant Cells" Bioconjugate Chem. 11(2):153-160 (2000)
	Muthiah Manoharan "2'-Carbohydrate modifications in antisense oligonucleotide therapy: importance of conformation, configuration and conjugation" Biochimica et Biophysica Acta 1489:117-130 (1999)
25	Thazha P. Prakash, et al. "2'-O-{2-[N,N-(Dialkyl)aminooxy]ethyl}-Modified Antisense Oligonucleotides" Organic Letters 2(25): 3995-3998 (2000)

Examiner

Date Considered

12/201

*Examiner:

Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO 1449

Patent and Trademark Office - U.S. Department of Commerce





OMB No. 0651-0011

Atty. Docket No.	02480 1679-0015	Se	rial No. 09	9/627,787		``C^
Applicant	Eugen UHLMANN et al.					y or
iling Date	July 27, 2000	Gr	oup: 16	332		Chi e 9
 		J.S. PATENT DOC	CUMENTS		· · · · · · · · · · · · · · · · · · ·	Filing Dates
Examiner Initial*	Document Number	Date	Name	Class	Sub Class	Filing Date
	T T	REIGN PATENT D				
	Document Number	Date	Country	Class	Sub Class	Translation Yes or N
	OTHER DOCUMENTS (In	ncluding Author,	Title, Date, Per	tinent Page	es, Etc.)	
R	Kenneth R. Luehrser Oligonucleotides for Tissues" The Journal	Use as In Situ Hyb	ridization Probe	s to Detect	mRNA Targ	gets in Cells and
· · · · · · · · · · · · · · · · · · ·				 		
xaminer	100	Date	Considered	12/20	1-1	
Examiner: Ir	nitial if reference considered, in a conformation if not in conformation in applicant.	whether or not cita	tion is in confor	mance with	MPEP 609	